

**ATTACHMENT A**
Remarks

Claims 1-21 are pending in the present application. By this Amendment, Applicant has amended claims 1-21. Applicant respectfully submits that the present application is in condition for allowance based on the discussion which follows.

Claims 1-21 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite and allegedly failing to conform with current U.S. practice. By this Amendment, Applicant has amended claims 1-21 so as to conform with U.S. claim practice, thereby obviating the rejection to the claims under 35 U.S.C. § 112, second paragraph.

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muscariello (U.S. Patent No. 4,260,447) (hereinafter "Muscariello"). Specifically, it was alleged that Muscariello discloses the present claimed guide means, sealing head and compressed hot air generator. However, the Examiner acknowledged that Muscariello fails to disclose a sealing head made of a material with good material strength, having a low coefficient of friction and a high degree of thermal insulation. Further, the Examiner acknowledged that the apparatus of Muscariello lacks specific disclosure of a sealing head being withdrawn when the material to be sealed is stopped. However, the Examiner alleged that the elements missing from Muscariello would have been obvious to a person of ordinary skill in the art.

The present invention is directed to a novel and non-obvious apparatus for forming a continuous tight heat-sealing of longitudinal, overlapping edges of tubular pieces of thermoplastic film. The apparatus includes guide means for guiding and holding longitudinal edges of tubularized film so that the longitudinal edges overlap with

an intimate and sufficiently distributed contact. A sealing head is made of a material having good mechanical strength, a low coefficient of friction in relation to the film to be sealed and a high degree of thermal insulation. The sealing head is provided with means for moving the sealing head relative to the film, whereby the sealing head is in close proximity to the film as the film moves, and is withdrawn from the film when the film stops.

The present sealing head made of a material with good mechanical strength, having a low coefficient of friction in relation to the film and a high degree of thermal insulation, provides features and advantages to the present apparatus not found in the art and, moreover, not obvious from the prior art. As disclosed in the present specification, the aforementioned properties allow the sealing head to not radiate heat toward the thin edges of the film to be sealed (specification, page 2, lines 10-15). Further, the present sealing head makes it possible to position the sealing head very close to the film to be sealed and to concentrate the sealing action of the jet of hot air in a defined zone, thus keeping the pressure of the hot air emitted at very low levels (specification, page 2, lines 15-18). Making the sealing head of an engineering polymer permits the sealing head to move with minimum inertia (specification, page 2, lines 18-20).

In sharp contrast to the present invention, the device of Muscariello is directed to a completely different device for sealing material and, thus, not subject to the same problems as some prior devices more similar to the present device, which the present invention overcomes. In particular, the device of Muscariello is directed to sealing the upper portions of a single bag and not a continuous layer of superimposed, overlapping

edges of a tubular film, as occurs in the present invention. For example, referring to Muscariello, Figure 4, the upper portion 18 of bag 12 is sealed. However, the edge sealed is not a superimposed, overlapping edge, as occurs via the present guide means.

Contrary to the Examiner's allegation, it would not have been obvious to one of ordinary skill in the art to modify the device of Muscariello to include the claimed sealing head made of a material with good mechanical strength, having a low coefficient of friction in relation to the film to be sealed and a high degree of thermal insulation. Further, it would not have been obvious for one of ordinary skill in the art to modify the device of Muscariello to have means for approach and withdrawal of the sealing head relative to the film.

References can only be combined if the art, as a whole, including the cited references and knowledge possessed by a person having ordinary skill in the art, present "an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l v. Teleflex, Inc.*, 550 U.S. ____, 82 USPQ2d 1385, Slip Opinion at 14 (2007) (emphasis added). Moreover, "[t]o facilitate this review, this analysis should be made explicit." *KSR*, Slip Opinion at 14 (emphasis added). Although the Office Action includes conclusionary statements that it would have been obvious to have modified the device of Muscariello to have the claimed elements, such as a sealing head made of a material having a low coefficient of friction and a movable sealing head, the Office Action fails to provide any facts supporting this conclusion. Further, the Office Action fails to provide facts regarding any known problem to be solved in the art or the specific device of Muscariello, which would lead one of ordinary

skill in the art to modify the device of Muscariello to arrive at the claimed invention.

Mere conclusionary statements that making modifications to the prior art device would be beneficial, absent any reason one of ordinary skill in the art would have considered modifying the device, fails to establish a *prima facie* case of obviousness in accordance with the holding in *KSR*.

Furthermore, notwithstanding the failure of the Office Action to establish a *prima facie* case of obviousness, there fails to be any reason or knowledge in the art which would lead one of ordinary skill in the art to make the numerous modifications to the device of Muscariello to arrive at the claimed device. Moreover, the claimed invention, as a whole, would not have been obvious to one of ordinary skill in the art.

Turning to the differences between the claimed invention and the device of Muscariello, Muscariello fails to disclose or make obvious the present guide means, sealing head or means for approach or withdrawal of the sealing head.

With regard to the present guide means, Muscariello fails to teach a device for guiding and holding longitudinal edges of tubularized film so that the longitudinal edges overlap with intimate contact. Nowhere does Muscariello teach or make obvious a guide means for guiding and holding longitudinal edges of tubular film so that the longitudinal edges overlap as claimed. To the contrary, Muscariello clearly teaches a pulley 58 for holding the top portion of upper portion 18 of a bag to be sealed (see, e.g., Muscariello, Figure 3). Therefore, the Muscariello device fails to teach or make obvious a guide means for guiding and holding longitudinal edges of tubular film so that the longitudinal edges overlap as claimed.

Further, Muscariello fails to teach or make obvious a sealing head made of a material having a low coefficient of friction and a high degree of thermal insulation. Although the Examiner alleges that it would have been obvious to modify the sealing head of Muscariello to have a low coefficient of friction (alleging it would have been a matter of engineering design choice so that the sealing can withstand the heat of the compressed hot air), the Examiner has failed to provide any facts supporting this conclusion. The Office Action fails to include any facts supporting why one of ordinary skill in the art would have found it beneficial to modify the Muscariello device to have the claimed low coefficient of friction. Further, the Office Action fails to identify a known problem in the art which would have led a person of ordinary skill in the art to modify Muscariello to arrive at the claimed device. In conclusion, the Office Action fails to provide any reason why one would make the modification and fails to allege any benefit which would be achieved by the modification, such that one of ordinary skill in the art would have made the modification.

In contrast to the lack of any reason to have a sealing head composed of a material with a low coefficient of friction, the present specification discloses that the recited low coefficient of friction provides unexpected and non-obvious features and advantages in the present invention. In the present invention, the low friction coefficient, relative to the film used, is important when using sticky film, such as stretch film, which is advantageous for use in forming a continuous tight heat sealing of longitudinal overlapping edges of tubular pieces of thermoplastic film. There fails to be any reason why one of ordinary skill in the art would have selected a low coefficient of friction for use in the device of Muscariello, absent the present disclosure.

In addition, although the Examiner alleges that it would have been obvious to select a sealing head made of a material with a high degree of thermal insulation, the claimed thermal properties, in conjunction with the low coefficient of friction properties of the sealing head, are advantageous in the present apparatus in keeping heat from harming the edges of the film which comprises overlapping edges.

Based on the foregoing, contrary to the Examiner's allegation, a sealing head composed of a material having a low coefficient of friction and high degree of thermal insulation is not obvious as a matter of engineering design.

Furthermore, there fails to be any reasonable apparent reason why one of ordinary skill in the art would modify the sealing head of Muscariello to move toward the film as the film moves and away from the film as the film stops, in that Muscariello is specifically directed to a continuous method and fails to teach or in any way make obvious a device in which the film would be stopped and the heat source provided such that it would be necessary to divert the heat from the film. Again, absent the present disclosure, there fails to be any reason why one of ordinary skill in the art would modify the sealing head of Muscariello to have the claimed mobility.

Moreover, although the Office Action alleges that it would have been obvious to have the sealing head move away from the film when the film is stationary in order to prevent the sealing head from damaging the film, the Office Action fails to allege any facts supporting the conclusion that the sealing head should be withdrawn when the material is stopped. Nowhere does the Office Action provide facts of a device with problems associated with stationary sealing heads and stopped film which would lead one to modify the sealing head to have the claimed mobility. Further, the Examiner has

failed to indicate any facts which would lead one of ordinary skill in the art to modify the Muscariello device to have the claimed movability.

Furthermore, due to differences between the present device and Muscariello's device, it would not have been obvious for one of ordinary skill in the art to modify the device of Muscariello to have a sealing head with the claimed low friction coefficient or a sealing head which is adjustable from a short distance from the film as the film advances and a withdrawn position from the film when the film stops. Muscariello clearly teaches a plurality of cool air which cools the seam after it is sealed (Muscariello, column 2, lines 51-65). Therefore, there fails to be any reason why one of ordinary skill in the art would modify the nozzles to have the claimed structure.

Based on the foregoing, Applicant respectfully submits that claims 1-5 are not obvious in view of Muscariello.

Applicant gratefully appreciates the Examiner's indication of the allowable subject of claims 6-21. In view of the foregoing, Applicant respectfully submits that all claims are now in condition for allowance.

END REMARKS